

URBAN AND ENVIRONMENTAL SERVICES PROJECT
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**ASSESSMENT OF WASTE MANAGEMENT SYSTEMS
IN MEKNES, AZROU, AND SEFROU UPDATE**

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By:

**James A. Dohrman, P.E. and
Séfiane Benyahia**



Technical Support Services, Inc.
1012 N Street, NW
Washington, DC 20001-4297 U.S.A.

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EXECUTIVE SUMMARY

General

The overall goal of this project is to evaluate the waste management systems in the cities of Meknes, Azrou and Sefrou and to make improvements where deficiencies are found. In July, 1995, a preliminary assessment was completed in the three study cities. In September, 1995, a second phase of the assessment was completed in Meknes. This report is a follow-up evaluation of the progress of the study cities in implementing the recommendations of the preliminary assessments.

Meknes

The July, 1995 assessment recommended many improvements to the collection and landfill systems including the closure of the existing landfill and search for a new landfill site. The City responded quickly and requested further technical assistance in September, 1995 for evaluation of a new landfill site. The 1997 evaluation has indicated slow progress on the landfill site and only minimal progress on the other recommendations. The landfill site is in another municipality and they have objected. The City is currently negotiating with the governor's office for permission to use this site. Final acceptance of the site is expected in 3 to 4 months.

A private contract was issued in February 1996 for covering the existing landfill and excavation of an interim landfill area at the existing site. The contractor worked for three months but stopped because he was not paid. The municipalities could not generate sufficient funds to pay for this work.

The City would like to proceed with private operation of the new landfill and the collection systems. There are many existing issues, including funding, contracting and legal problems that must be addressed before privatization of either the landfill or collection systems can proceed. A feasibility study is needed to identify and address these issues.

Azrou

The new landfill (1992) in Azrou is out-of-control and must be addressed in the near future. Although the technical staff is very capable they need a landfill operating plan and basic training in controlled landfill techniques. The location of the landfill, 15 kilometers from the City and 200 meters above the City is causing increased wear on older collection trucks. They are considering a larger truck and transfer depot in the City.

Sefrou

The collection system and landfill in Sefrou are efficiently operated. Although there are minor problems, the City is aware of them and they are moving toward solutions at their own pace.

Their technical staff is experienced and well qualified. No further technical assistance is recommended at this time.

Operator Training

The conditions observed in all three landfills indicates a need for operator training. A training workshop is recommended for the technical staffs in the three cities plus Oulad Teima. A training manual should be prepared in advance to become the focus of the workshop.

1.0 INTRODUCTION

1.1 Background

In July, 1995, the United States Agency for International Development (USAID), through the Urban and Environmental Services Project (U&ES), completed a preliminary assessment of solid waste management systems in the cities of Meknes, Azrou and Sefrou. A similar assessment was provided in 1994 to the City of Tetouan. In September 1995, a second phase of the assessment was completed in Meknes, which performed technical evaluations specific to the existing landfill and a new proposed landfill. This report is a follow-up evaluation of the progress of the study group in implementing the recommendations of the preliminary assessments.

The USAID technical assistance team consisted of a solid waste expert under contract with Technical Support Services (TSS) and local TSS staff. The field inspections and follow-up interviews with the technical staffs of each city were conducted on May 28, 29 and 30, 1997. The team was somewhat hampered in its efforts by the activities associated with the upcoming election. In general, elected public officials were not available for meetings and many of the technical services observed were associated with pre-election projects, and did not represent normal activity.

2.0 MEKNES

2.1 General

The initial July 1995 assessment recommended several technical and administrative changes in the collection system. These included improved record keeping, conversion to container service, larger compaction trucks, and consolidation of the four separate municipalities and collection systems into one entity with shared equipment and depot facilities. In 1995, the existing landfill was judged to be a major problem, in need of immediate attention. An interim landfill was recommended along with closure of the existing site. A preliminary site evaluation was performed to assist the City in locating a new landfill. Hydrogeology of the region and soils data were obtained and reviewed. This evaluation recommended that the site search concentrate on the large area of clay soils north of the city.

Between July 1995 and September 1995, the City made progress in locating a new landfill site but little progress in the other recommendations made in the initial assessment. The interim landfill proposal made in July 1995 was considered by the city and a site selected which is adjacent to the existing landfill, but no work had begun.

The City of Meknes responded quickly to the initial 1995 landfill site recommendations and they located a new landfill site and requested USAID assistance to evaluate this site, complete a

preliminary design and cost estimate and make recommendations for interim measures at the existing dumping site. These tasks were performed in September 1996. The second evaluation was more detailed than the first with specific drawings, calculations and cost estimates for both interim and new landfill sites.

2.2 1997 Evaluation

2.2.1 Landfill

Progress on the new landfill site is moving very slowly. Since the new site is in another commune, this commune has objected to the location of the landfill. The City is currently negotiating with the Governor's office for permission to use the site. The public works director said that the negotiations are moving slowly, but he anticipates obtaining the site in the next 3 to 4 months.

In February 1996 the city issued a tender for covering a portion of the existing landfill and performing the excavations need for the interim landfill area. The value of the tender was reported to be 1,200,000 DH. The contractor worked for 3 months but then stopped because he had not been paid. The City (Urban Community) assessed each of the 4 municipalities for this work. Only one of the municipalities made a partial payment so there were no funds to pay the contractor.

The City Engineer had pictures of the work performed. In general, the pictures documented significant improvements at the existing landfill as a result of the February 1997 work. Soil was trucked in for covering and the access road to the active area of the landfill was improved and widened. Unfortunately, the work was terminated before any excavation was performed in the interim disposal area.

After our interview with the City Engineer, the project team inspected the existing landfill. We were surprised to see that the landfill looks much the same as it did in July 1995. Uncovered waste was piled every where and an estimated 100 cattle, and goats still grazed on the waste. Although 3 bulldozers were on the site, there did not appear to be any control of the dumping. The trucks merely dump in any open area, and then the bulldozers pushed the waste over the embankment where it burns.

Even more surprising, was that there were no signs of the work that had been accomplished in February 1996. The City has permitted additional waste to be placed on top of the cover soil placed in February 1996. This cover was intended to be the final cover so allowing additional waste to be placed on top of it, totally defeated the purpose of this work.

2.2.2 Collection

Due to limited time in Meknes the project team did not evaluate the individual municipalities to assess implementation of our collection recommendations. During our inspection of the landfill we did observe one new 14 m³ collection truck so at least one municipality has begun upgrading their collection equipment.

2.2.3 Administration

Since the last evaluation in September, 1995, the Urban Community has expanded to include two additional municipalities. Toulal and Ouislane are now part of the Urban Community and will

use the existing and new landfill. Their combined population is estimated at 40,000 which is an increase of approximately 10 percent in the total Urban Community. Since we do not have any other information regarding these municipalities we cannot determine their impact on the landfill or other waste management facilities. Since the proposed landfill is in the municipality of Toulal it is anticipated that this will assist the Urban Community in obtaining permission to use the site.

The City Engineer acknowledged the recommendations in the report regarding consolidating the four individual collection systems (now six), but there were no plans or money to do so.

2.2.4 Municipal Finance

The experience of the February 1996 landfill work points to a difficult problem within the municipal system in Meknes. During our preliminary meeting with FEC in Rabat, we were advised that the Urban Community of Meknes had not exceeded its 40% level of borrowing but all of the municipalities were above the 40% and could not get any more funds from FEC. Yet when the landfill work was issued for tender, the Urban Community assessed each municipality for the work, rather than financing through FEC or other lending institution. Since the municipalities could not increase taxes or other income nor borrow more money from FEC, they could not meet this obligation.

Based on our limited work in Meknes, there does not appear to be a clear definition of the responsibilities and obligations of the Urban Community and the municipalities, in terms of solid waste management or other shared urban services. A similar problem now exists in Tetouan where the two municipalities and Urban Community cannot agree on the location of a new landfill site. This uncertainty will make privatization very difficult.

Public services are financed through the Urban Service Tax. This tax which is collected by the Ministry of Finance is shared 50/50 between the municipalities and the Urban Community. This tax is currently fixed at 10% and cannot be changed without the approval of the MOI. At the present time this tax is not able to fund present services and an increase in the tax rate or another source of funds will be required before Meknes can proceed with the new landfill.

2.2.5 Privatization

During our meeting with the City Engineer he said that the City Council had approved privatization for all waste management services, including waste collection, street sweeping and landfill operation. During the past year, the City has received two unsolicited proposals from foreign companies, one for collection and street sweeping and one for landfill operation. Both proposals were very high in cost and were not considered.

Privatization of waste management services will be very difficult in Morocco under current conditions. The recent experience with the landfill work is a good example of the problems that Meknes will face in privatizing its services. The number one concern of the private sector will be guarantee of payment and appropriate legal procedures if payment is not received. The current legal system in Morocco does not favor privatization. The court system is slow, over burdened and unpredictable. The legal ability of municipalities or Urban Communities to enter into long-term contracts is also in doubt. The private sector will be asked to make a significant investment in equipment and resources and they must have a guarantee that they can repay that investment.

The MOI has informed us that two municipalities in Casablanca are considering privatization of collection services. We should monitor these projects to determine how these projects are financed and what payment guarantees have been established.

2.2.6 User Fees

Some people who support privatization also support user fees as a way of removing the entire service from the public sector. This will work and has worked effectively for water supply and telephone, where the service can be terminated for non-payment, without negative impacts. This will not work for solid waste collection and landfill because termination of service will merely transfer the disposal back to informal methods. Without a very strong environmental awareness and effective enforcement and prosecution for illegal dumping and littering, user fees cannot be used to pay for public or private waste management services. These must continue to be financed through taxation.

2.2.7 Other Issues

The Urban Community remains interested in several of our initial recommendations, including evaluation of the former compost facility as a materials sorting and recycling facility.

3.0 AZROU

3.1 General

The project team met briefly with the Secretary Generale of Azrou and then with the technical staff in Azrou. When we began discussing the recommendations of the July 1995 report they said they never received a copy of the report. Without a copy of the report it was difficult to assess their implementation of the recommendations.

The July 1995 assessment found the technical staff to be very competent and well organized. The collection system, in particular was very well organized and efficiently operated. The city had located a new dumping area in 1993 and had only been operating it for 2 years, as an unsupervised open dump. The landfill site location was the result of a hydrogeological study and

is located in a remote area, away from the city. Access to the site is difficult in wet weather and the elevation of the site makes it a very windy location with a lot of blowing plastic bags.

Recommendations in 1995 included revision of landfill operating procedures and conversion of a portion of the collection system to container service.

3.2 1997 Evaluation

3.2.1 Landfill

The 1997 inspection of the landfill found it to be unchanged from 1995. The site is still totally uncontrolled and the plastic litter from the wind is much worse. Recyclers have increased their activity with several groups recycling paper and plastic bottles. One group of recyclers was burning materials, possibly to reclaim metals. As in 1995, the roadway into the site is littered with loose waste and piles of waste which was dumped when the access road was not passable during wet weather.

The landfill is located in a high upland valley which drains to a small stream. Although the stream was dry during this inspection, there were signs that leachate produced in the landfill was running into the stream.

3.2.2 Collection

The collection system continues to be well organized and operated. The only problem mentioned by the technical staff was an increase in the number of truck problems due to the long steep road to the landfill site, which is 15 km from the city and 200 meters higher in elevation. The

technical staff is considering a new large truck to transfer waste from a depot in the city, to the landfill.

4.0 SEFROU

4.1 General

The project team met with the president and technical staff of the City and inspected the landfill. The president thanked us for the report and said that it had many good recommendations but due to lack of finances, the City was unable to implement any of the recommendations.

4.2 1997 Evaluation

4.2.1 Landfill

The landfill continues to operate as it had in 1995. The location is about 3 km from the city center but in a down wind direction. The landfill is located in a depression, is totally fenced and reasonably well operated. The landfill is intentionally burned on a daily basis. Although the burning creates air pollution, it is an effective way of controlling wind blown plastics, odors and insects. The new market, which was under construction in 1995 has been completed but has not opened. Current plans are to rent space to vendors and open the market one day per week. Buses will transfer residents to and from the market.

The City attempted to negotiate an exclusive franchise with a local individual for the rights to salvage material from the landfill. As part of the agreement, the recycler would be required to clean up plastic bags which blow from the site. Although the idea was a good one, the individual rejected the idea, saying that cleaning up the plastic bags is not his problem.

The large olive oil waste pit adjacent to the landfill is still operational and a source of foul odors. The city is gradually filling in the pit with construction debris but this will take a long time.

4.2.2 Collection

Although there were no changes made to the collection system since 1995, it continues to function well. The project team did not observe any problem areas within the city. On the contrary the city was very clean and showed a great deal of pride in keeping it clean and beautiful.

5.0 RECOMMENDATIONS

5.1 Meknes

The previous reports have provided the Urban Community with sufficient technical information to proceed with development of a new landfill, including preliminary design and cost estimates. After they have secured the site, and arranged financing they must decide how to develop and operate the new landfill. Based on previous discussions, they will proceed with privatization. This will involve several development tasks that were first presented in the September 1995 report:

1. Precise definition of services (operating plan)
2. Determine total public costs of operation.
3. Determine the availability of private companies to perform the work.
4. Evaluate public resources/costs for contract administration.
5. Evaluate legal issues regarding municipal contracting and payment guarantees.
6. Develop local regulations and enforcement policies regarding littering, scavenging, and other activities that will hinder private operation.

The above tasks should be included in a feasibility study to be completed by the Urban Community or USAID consultant.

The Urban Community has discussed the privatization of the entire collection and street sweeping in Meknes. This is not recommended at this time. A better approach would be to privatize one of the four municipalities and then compare costs and services. If successful then the other communities could also be privatized. This process should also begin with a feasibility study as outlined above.

5.2 Azrou

The City of Azrou needs an operating plan for its landfill. Although the technical staff is very capable, they need guidelines and procedures to bring the landfill under control. The first step in the operating plan is the preparation of a topographic survey and map of the site. This will form the basis of the operating plan. During the recent inspection, the technical staff said they would begin working on the topographic map. Further USAID assistance could be offered to complete the operating plan.

The project team agrees with the technical staff's recommendation for a larger transfer truck to access the remote site. The truck should be a 16 m³ rear load compactor which would have to make 3 to 4 trips to the landfill per day. This truck will also give Azrou the opportunity to convert a portion of its collection system to containers. Some technical assistance may be required to locate and design a transfer depot and container collection system.

5.3 Sefrou

The collection system in Sefrou is well organized and operated. As collection trucks continue to age, they should be replaced with compactor trucks. Although the landfill should stop burning its waste, it is reasonably well maintained. The city is well aware of these issues and they are moving toward solutions at their own pace. They have an experienced and capable technical staff. No further technical assistance is recommended at this time.

5.4 Operator Training

Our latest visits to the study communities has demonstrated a need for training of local operators in controlled landfill techniques. Although there have been previous reports and workshops at higher levels, this information has not reached the local staff who actually operate the landfill. A

workshop is recommended for the four study Cities, Meknes, Azrou, Sefrou and Oulad Teima. A manual of landfill practices should be prepared in advance of the workshop.